

### **REMARKS**

Reconsideration of this Application is respectfully requested. In response to the Non-Final Office Action mailed September 27, 2005, Applicants have amended claims 7, 21, 26, 34, and 35. Claims 1-74 are pending.

Based on the above Amendment and the following Remarks, Applicants respectfully request that the Examiner reconsider and withdraw all outstanding objections and rejections.

#### **Objections to the Claims**

On page 2, the Action objects to claim 7 because of informalities.

Claim 7 has been amended as suggested. Applicants respectfully request that that objection be withdrawn.

#### **Rejections under 35 U.S.C. § 102**

On pages 2-19, the Action rejects claims 1-3, 7, 8, 12, 14, 19-31, 33-40, 43-46, 49-55, 58-63, 66-70, 73, and 74 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,754,709 to Gbadegesin (hereinafter "Gbadegesin"). Applicants respectfully traverse this rejection.

(A) On pages 2-3, the Action rejects claim 1. Claim 1 recites "A method for handling digital data packets at a logical borderline that separates an untrusted packet-switched information network from a protected domain, comprising the steps of: - intercepting, at a packet processor part, a packet that is in transit between the untrusted packet-switched information network and the protected domain, - examining the packet at the packet processor part in order to determine, whether the packet contains digital data that pertains to a certain protocol, - if the packet is not found to contain digital data that would pertain to said certain protocol, processing the packet at the packet processor part, and - if the packet is found to contain digital data that **pertains** to said certain protocol, - **redirecting** the packet to an application gateway part and processing the packet at the application gateway part according to a set of processing rules based

on obedience to said certain protocol; wherein the packet processor part is a kernel mode process running in a computer device and the application gateway part is a user mode process running in a computer device.” (Emphasis added).

For at least the following two reasons, Gbadegesin does not anticipate claim 1.

First, Gbadegesin does not teach or suggest redirecting a packet from a kernel mode process to a user mode process when the packet contains digital data that pertains to a certain protocol. Specifically, Gbadegesin does not teach or suggest “intercepting, at a packet processor part, a packet,” and “if the packet is found to contain digital data that pertains to said certain protocol, redirecting the packet to an application gateway part . . . wherein the packet processor part is a kernel mode process and the application gateway part is a user mode process,” as recited in claim 1.

On page 3, the Action cites column 7, lines 66-column 8, line 30 of Gbadegesin as teaching the above claim features. Applicants respectfully disagree. Gbadegesin does not teach or suggest redirecting a packet from module 106 (in the kernel mode) to proxy 104 (in the user mode) when the packet contains digital data that pertains to a certain protocol. Instead, Gbadegesin teaches applying a redirect to a packet in module 106 (in the kernel mode) that avoids sending the packet to the proxy 104 when the module 106 recognizes that the packet belongs to a known session to avoid a translation of data from a kernel mode to a user mode (see Gbadegesin, FIG. 10, “U,” “K,” col. 7, lines 66 – col. 8, line 30, col. 9, lines 66-col. 10, lines 36).

When a packet is from an unrecognized session, the module 106 forwards the packet to the proxy 104, which is in the user mode (see Gbadegesin, col. 10, lines 1-6). Hence, for Gbadegesin, when module 106 recognizes that a packet belongs to a known session, the packet is not redirected to the user mode (i.e, proxy 104). In contrast, claim 1 recites redirecting a packet to a user mode process when the packet pertains to a certain protocol. Thus, Gbadegesin does not teach or suggest “intercepting . . . a packet” at a “packet processor part [that] is a kernel mode process” and “if the packet is found to contain digital data that pertains to said certain

protocol, **redirecting** the packet to an application gateway part . . . wherein . . . the application gateway part is **a user mode process**,” as recited in claim 1.

Second, Gbadegesin does not teach or suggest determining whether a packet contains data that pertains to a certain protocol, and then processing the packet at either a packet processor part or at an application gateway part based on this determination. Specifically, Gbadegesin does not teach or suggest “examining the packet at the packet processor part in order to determine, whether the packet contains digital data that pertains to a certain protocol, if the packet is **not** found to contain digital data that would pertain to said certain protocol, processing the packet at the packet processor part, and if the packet **is found** to contain digital data that pertains to said certain protocol, **redirecting** the packet to an application gateway part and processing the packet at the application gateway part,” as recited in claim 1.

On page 3, the Action cites column 7, lines 66-column 8, line 30 of Gbadegesin as teaching the above claim features. Applicants respectfully disagree. The function performed by the claimed packet processor part is different than the function performed by the kernel mode translation module 106 of Gbadegesin. Specifically, the claimed packet processor part redirects packets based on a different determination than that used in Gbadegesin. In claim 1, the packet processor part processes a received packet if the packet contains digital data that **does not** pertain to a **certain protocol**. Otherwise, the packet is **redirected** to the application gateway part for processing. In contrast, Gbadegesin teaches that the kernel mode translation module 106 processes and **redirects** the received packet if the module 106 **identifies that session** (see Gbadegesin, col. 8, lines 7-13). Otherwise, for packets in new and **unrecognized** sessions, the module 106 forwards the packet to the proxy 104, which is in the user mode (see Gbadegesin, FIG. 10, “U,” “K,” col. 7, lines 66 – col. 8, line 30, col. 9, lines 66-col. 10, lines 36). Thus, the kernel mode translation module 106 of Gbadegesin processes and **redirects** packets on **identified** sessions, and forwards packets from **unrecognized** sessions to the proxy 104. In contrast, the claimed packet processor part **processes** packets with digital data that **does not** pertain to a certain protocol, and redirects packets having digital data that pertains to the certain

protocol to an application gateway part. Therefore, the function performed by the claimed packet processor part is different than the function performed by the kernel mode translation module 106 of Gbadegesin.

Additionally, the function of the claimed application gateway part differs from that of the transparent proxy 104 of Gbadegesin. Specifically, the claimed application gateway part processes packets with digital data pertaining to a certain protocol, whereas the proxy 104 of Gbadegesin processes packets belonging to unrecognized sessions. In claim 1, the packet is redirected to an application gateway part for processing if the packet contains digital data that **pertains** to a certain protocol. In contrast, Gbadegesin teaches that the kernel mode translation module 106 forwards data to the transparent proxy 104 when the data belongs to a new and **unrecognized** session (see Gbadegesin, col. 10, lines 1-18). Thus, the claimed application gateway processes packets with digital data that **pertains** to a certain protocol, whereas the proxy 104 of Gbadegesin processes packets from **unrecognized** sessions. Therefore, the function of the claimed application gateway part differs from that of the transparent proxy 104 of Gbadegesin.

Based on the reasons given above, Gbadegesin does not teach or suggest “examining the packet at the packet processor part in order to determine, whether the packet contains digital data that pertains to a certain protocol, if the packet **is not found** to contain digital data that would pertain to said certain protocol, processing the packet at the packet processor part, and if the packet **is found** to contain digital data that pertains to said certain protocol, **redirecting** the packet to an application gateway part and processing the packet at the application gateway part according to a set of processing rules based on obedience to said certain protocol; wherein the packet processor part is **a kernel mode process** running in a computer device and the application gateway part is **a user mode process** running in a computer device,” as recited in claim 1.

Accordingly, Gbadegesin does not anticipate claim 1 under 35 U.S.C. § 102(e) since Gbadegesin does not teach all of the claim features recited in claim 1. Claim 1 is therefore in condition for allowance and allowance thereof is respectfully requested.

Claims 2, 3, 7, 8, 12, 14, 19-31, 33-38, which depend from claim 1, are also in condition for allowance due to their dependence on an allowable claim.

(B) On page 4, the Action rejects claim 39. Claim 39 is allowable for reasons analogous to those given in support of claim 1.

Claim 40, which depends from claim 39, is also in condition for allowance due to its dependence on an allowable claim.

(C) On page 5, the Action rejects claim 43. Claim 43 is allowable for reasons analogous to those given in support of claim 1.

Claims 44-46, which depend from claim 43, are also in condition for allowance due to their dependence on an allowable claim.

(D) On page 18, the Action rejects claims 49 and 50. Claims 49 and 50 are multiple dependent claims that depend from claims 1, 39, 41, 43, or 47. Based on the arguments presented above and below, each of claims 1, 39, 41, 43, and 47 is in condition for allowance. Claims 49 and 50, which depend from allowable claims, are also in condition for allowance due to their dependence on an allowable claim.

(E) On page 5, the Action rejects claim 51. Claim 51 recites “A method for handling digital data packets at an application gateway entity located at a logical borderline that separates an untrusted packet-switched information network from a protected domain, comprising the steps of: receiving an intercepted and redirected packet from a packet processor part that intercepts packets when they are in transit between the untrusted packet-switched information network and the protected domain, receiving from the packet processor part an original value of a certain destination information field found in the packet at the moment of intercepting the packet at the packet processor part, and processing the packet according to a set of processing rules that are based on obedience to said certain protocol and take also the original value of the destination information field into account.” (Emphasis added.)

For at least the following reasons, Gbadegesin does not anticipate claim 51.

Gbadegesin does not teach or suggest receiving a redirected packet at an application

gateway from a packet processor part. Specifically, Gbadegesin does not teach or suggest “A method for handling digital data packets at an **application gateway** entity located at a logical borderline that separates an untrusted packet-switched information network from a protected domain, comprising the steps of: **receiving an intercepted and redirected packet** from a **packet processor part**,” as recited in claim 51.

On page 5, the Action rejects claim 51 for the same reasons as those given to reject claim 2. The Action rejects claim 2 citing column 8, line 53 to column 9, line 5 of Gbadegesin describing the interaction between the kernel mode translation module 106 and the transparent proxy 104. Applicants respectfully disagree that this interaction anticipates the above identified claim features.

The interaction between the kernel mode translation module 106 and the transparent proxy 104 differs from the interaction between the claimed application gateway and packet processor part. Specifically, the kernel mode translation module 106 does not redirect received packets to the transparent proxy 104. Instead, Gbadegesin teaches that the kernel mode translation module 106 applies a dynamic **redirect** to **avoid** the trip to the proxy 104 (see Gbadegesin, col. 10, lines 29-33). Thus, the transparent proxy 104 does not receive redirected packets from the kernel mode translation module 106. Therefore, Gbadegesin does not teach or suggest “A method for handling digital data packets at an **application gateway** entity located at a logical borderline that separates an untrusted packet-switched information network from a protected domain, comprising the steps of: **receiving an intercepted and redirected packet** from a **packet processor part**,” as recited in claim 51.

Accordingly, Gbadegesin does not anticipate claim 51 under 35 U.S.C. § 102(e) since Gbadegesin does not teach all of the features of claim 51. Claim 51 is in condition for allowance and allowance thereof is respectfully requested.

Claim 52, which depends from claim 51, is also in condition for allowance due to its dependence on an allowable claim.

(F) On page 4, the Action rejects claim 53. Claim 53 is allowable for reasons analogous

to those given in support of claim 1.

Claims 54-55 and 58-61, which depend from claim 53, are also in condition for allowance due to their dependence on an allowable claim.

(G) On page 5, the Action rejects claim 62. Claim 62 is allowable for reasons analogous to those given in support of claim 1.

Claim 63, which depends from claim 62, is also in condition for allowance due to its dependence on an allowable claim.

(H) On page 5, the Action rejects claim 66. Claim 66 is allowable for reasons analogous to those given in support of claim 51.

Claim 67, which depends from claim 66, is also in condition for allowance due to its dependence on an allowable claim.

(I) On page 4, the Action rejects claim 68. Claim 68 is allowable for reasons analogous to those given in support of claim 1.

(J) On page 5, the Action rejects claim 69. Claim 69 is allowable for reasons analogous to those given in support of claim 1.

Claim 70, which depends from claim 69, is also in condition for allowance due to its dependence on an allowable claim.

(K) On page 5, the Action rejects claim 73. Claim 73 is allowable for reasons analogous to those given in support of claim 51.

Claim 74, which depends from claim 73, is also in condition for allowance due to its dependence on an allowable claim.

### **Rejections under 35 U.S.C. § 103**

I. On pages 19-23, the Action rejects claims 4, 15-17, 41, 42, 47, 48, 56, 57, 64, 65, 71, and 72 under 35 U.S.C. § 103(a) as being unpatentable over Gbadegesin in view of U.S. Patent Application Publication No. 2002/0124090 to Poier (hereinafter "Poier").

(A) Claims 4 and 15-17 depend from claim 1. Claim 1 is in condition for allowance, as discussed above. Thus, claims 4 and 15-17 are also in condition for allowance because of their dependence on an allowable claim.

(B) On page 21, the Action rejects claim 41. Claim 41 recites “A method for handling digital data packets at a logical borderline that separates an untrusted packet-switched information network from a protected domain, comprising the steps of: intercepting, at a packet processor part, a packet that is in transit between the untrusted packet-switched information network and the protected domain, examining the packet at the packet processor part in order to determine, whether the packet contains digital data that pertains to a certain protocol, if the packet is **not found** to contain digital data that would pertain to said certain protocol, **processing the packet at the packet processor part**, and if the packet **is found** to contain digital data that pertains to said certain protocol, prepending a header to the packet at the packet processor part, the prepended header containing a value that identifies an application gateway part as the destination of the packet, and **redirecting the packet to the application gateway part**, stripping the prepended header from the packet at the application gateway part and using the original value of the destination information field in the packet at the application gateway part in processing the packet according to a set of processing rules based on obedience to said certain protocol.”

The Action relies on Poier for a teaching of prepending a header. However, Poier does not teach the above identified claim elements which are also not taught by Gsbadegezin. For reasons similar to those given in support of claim 1, claim 41 is in condition for allowance.

Claim 42, which depends from claim 41, is also in condition for allowance due to its dependence on an allowable claim.

(C) On page 21, the Action rejects claim 47. Claim 47 is allowable for reasons analogous to those given in support of claim 41.

Claim 48, which depends from claim 47, is also in condition for allowance due to its dependence on an allowable claim.



(D) Claims 56 and 57 depend from claim 53. Claim 53 is in condition for allowance, as discussed above. Thus, claims 56 and 57 are also in condition for allowance because of their dependence on an allowable claim.

(E) On pages 21-22, the Action rejects claim 64. Claim 64 is allowable for reasons analogous to those given in support of claim 41.

Claim 65, which depends from claim 64, is also in condition for allowance due to its dependence on an allowable claim.

(F) On page 22, the Action rejects claim 71. Claim 71 is allowable for reasons analogous to those given in support of claim 41.

Claim 72, which depends from claim 71, is also in condition for allowance due to its dependence on an allowable claim.

II. On pages 24-25, the Action rejects claims 5 and 6 under 35 U.S.C. § 103(a) as being unpatentable over Gbadegesin in view of Poier, in further view of the article The TCP Datagram, I wanted to know and now you can too (hereinafter “Datagram”).

Claims 5 and 6 depend from claim 1. Claim 1 is in condition for allowance, as discussed above. Thus, claims 5 and 6 are also in condition for allowance because of their dependence on an allowable claim.

III. On pages 26-27, the Action rejects claims 9, 10, and 32 under 35 U.S.C. § 103(a) as being unpatentable over Gbadegesin in view of the article 3.3 Connectionless Transport: UDP (hereinafter “UDP”).

Claims 9, 10, and 32 depend from claim 1. Claim 1 is in condition for allowance, as discussed above. Thus, claims 9, 10, and 32 are also in condition for allowance because of their dependence on an allowable claim.

IV. On pages 27-29, the Action rejects claims 11 and 13 under 35 U.S.C. § 103(a) as being unpatentable over Gbadegesin in view of the article WTCP: an Efficient Transmission Control Protocol for Wired/Wireless Internetworking to Cheng (hereinafter “Cheng”).

Claims 11 and 13 depend from claim 1. Claim 1 is in condition for allowance, as discussed above. Thus, claims 11 and 13 are also in condition for allowance because of their dependence on an allowable claim.

V. On page 29, the Action rejects claim 18 under 35 U.S.C. § 103(a) as being unpatentable over Gbadegesin in view of Poier, in further view of the article RFC 1928 – SOCKS Protocol Version 5 to Leech (hereinafter “Leech”).

Claim 18 depends from claim 1. Claim 1 is in condition for allowance, as discussed above. Thus, claim 18 is also in condition for allowance because of its dependence on an allowable claim.

Applicants: Ylonen et al.  
Appl. No. 10/020,299


**Conclusion**

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is hereby invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment is respectfully requested.

Respectfully submitted,

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